

Translation

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PATENT COOPERATION TREATY

PCT/EP2003/014286



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0000054169	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/014286	International filing date (day/month/year) 16 December 2003 (16.12.2003)	Priority date (day/month/year) 18 December 2002 (18.12.2002)
International Patent Classification (IPC) or national classification and IPC C08G 18/67, 18/81, C09D 175/16		
Applicant BASF AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of _____ sheets.
3. This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 05 June 2004 (05.06.2004)	Date of completion of this report 06 May 2005 (06.05.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/014286

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed☒ the description:

pages 1-35, as originally filed

pages, filed with the demand

pages, filed with the letter of

☒ the claims:

pages 1-10, as originally filed

pages, as amended (together with any statement under Article 19

pages, filed with the demand

pages, filed with the letter of

☐ the drawings:

pages, as originally filed

pages, filed with the demand

pages, filed with the letter of

☐ the sequence listing part of the description:

pages, as originally filed

pages, filed with the demand

pages, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages☐ the claims, Nos.☐ the drawings, sheets/fig5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

Intern application No.
PCT/EP 03/14286**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	1-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations**1. Reference is made to the following document:**

D1: US-A-4 380 604 (Neuhaus et al.), 19 April 1983
(1983-04-19)

2. Novelty

2.1 None of the documents cited in the search report mention all the important features of the present invention. The subject matter of claims 1 to 10 is therefore novel (PCT Article 33(2)).

3. Inventive step

3.1 Document D1, which is considered to be the prior art closest to the subject matter of claim 1, discloses the following (the references in parentheses are to D1):

radiation-curable urethane(meth)acrylates produced from alkoxyolated polyols esterified with acrylic acid, diisocyanate and hydroxyethyl acrylate (examples 1 and 2).

The urethane acrylates disclosed in D1 are used as

coatings for paper, cardboard, plastics, leather, wood and nonwoven materials, and have good storage stability, elasticity and abrasion resistance (column 2, lines 12 to 22).

The difference between the closest prior art and the subject matter of claims 1 to 10 in terms of technical features is the reduction of the acid value resulting from further esterification with compounds containing epoxide groups in step (k). The examples and comparative example show that the reaction between the acids and epoxy (step (k)) results in improved chemical resistance and greater elasticity.

The problem addressed can therefore be seen as that of producing urethane(meth)acrylates with improved chemical resistance and greater elasticity. The solution proposed in claims 1 to 10 involves an inventive step (PCT Article 33(3)) because it is not obvious to a person skilled in the art that reducing the acid value of the intermediate product with epoxide will result in improved chemical resistance and greater elasticity.